



SAS® Marketing Optimization

Plan, prioritize and optimize communications to maximize profits

What does SAS® Marketing Optimization do?

SAS Marketing Optimization enables organizations to maximize economic outcomes by making the most of each individual customer communication while considering business drivers such as the company's resource and budget constraints, contact policies, the likelihood that customers will respond and more.

Why is SAS® Marketing Optimization important?

SAS Marketing Optimization increases the ROI of marketing campaigns by determining the best offers for individual customers. It also delivers analytic insight into the implications of business constraints such as channel capacity and contact policies.

Who is SAS® Marketing Optimization designed for?

Marketing campaign managers, business analysts, segment managers and quantitative analysts who are comfortable working in spreadsheets can use SAS Marketing Optimization to deliver the greatest economic results from direct marketing activities.

Cutting through all the marketing noise and delivering the right message to a receptive customer presents serious challenges for any company. Today, all marketing organizations — including the successful ones — are under increased pressure to do more with less.

Segmentation, analytics and testing improve marketing effectiveness, but they alone cannot provide the capability for dealing with the realities marketers face every day. Marketers must address issues throughout the marketing and fulfillment delivery chain — competing business goals, multiple marketing programs and constraints like channel capacity, budget and customer contact policies. No wonder marketers have difficulty predicting campaign profitability and ensuring that customers are not receiving conflicting offers in this environment.

SAS Marketing Optimization addresses these complex issues by applying sophisticated optimization and statistics in easy-to-use software designed for the business user. Marketers can target customers to maximize profitability, response rates, asset levels or any other parameter they choose. Simply provide information about customer preferences, propensities and profitability, costs, contact policies, and other business goals and objectives, and SAS Marketing Optimization computes the best contact strategy for your organization — across all campaigns and communications. In addition, SAS Marketing Optimization provides a what-if environment for modifying assumptions about these critical factors, yielding more insight into the economic impact of business constraints.

Companies today use SAS Marketing Optimization for campaign optimization, contact optimization, collections optimization, credit line assignment and coupon optimization where optimizing communications based on multiple factors is critical.

Key benefits

- **Improve marketing ROI.** Targeting effectively means higher response rates, improved channel effectiveness and reduced spending. It also means fewer deleted e-mails and fewer unwanted direct mail solicitations. Using segmentation and rules-based approaches to prioritizing marketing offers will not achieve the same results as the math-based approach offered by SAS Marketing Optimization.
- **Enhance contact strategy.** Optimize across complex contact policies to avoid over-saturating customers and violating corporate governance requirements. Eliminate uncoordinated and conflicting communications, and incorporate relevant relationship factors such as customer risk, advertising exposure and householding into the optimization to ensure that valuable customers are receiving the best possible set of communications across every channel.
- **Increase organizational efficiency.** Quantify where changes in staffing and budget really pay off with what-if analysis that shows you where you're leaving money on the table or where you have unused capacity.



Product overview

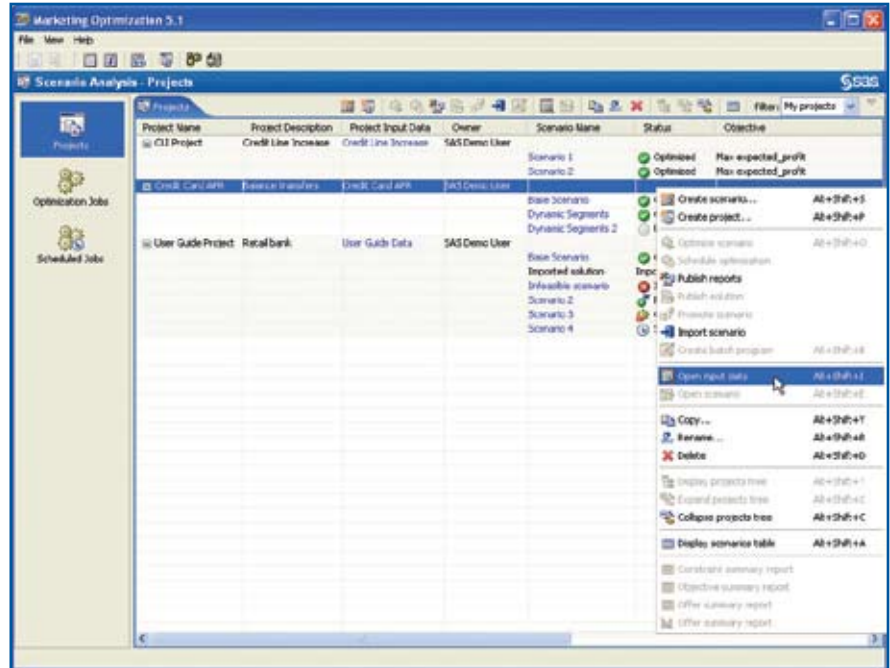
SAS Marketing Optimization is designed to improve the economic return of business-to-consumer direct marketing campaigns through a mathematical optimization process. Designed to complement SAS Marketing Automation, SAS® Enterprise Miner™ and other SAS solutions, SAS Marketing Optimization can also amplify investments in third-party campaign management and data mining applications.

Easy-to-use interface

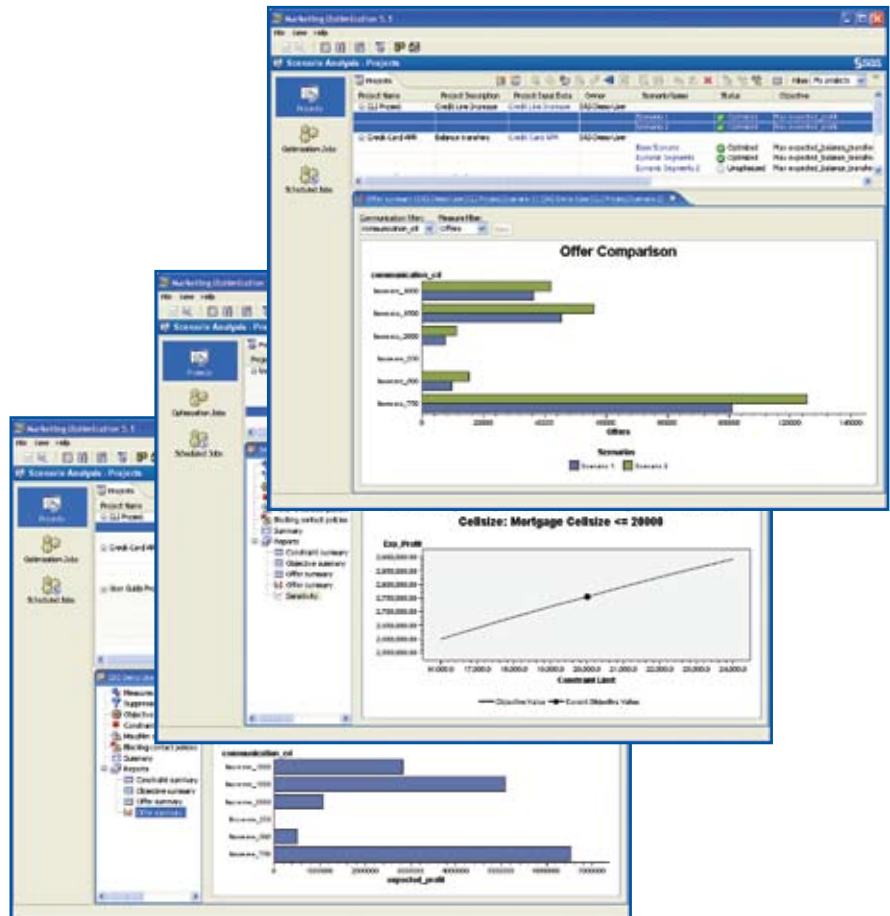
SAS Marketing Optimization users are guided through the solution using an intuitive and logical process. Wizards assist users with more complex tasks. All scenarios, constraints, reports and analyses are defined and performed through the user interface.

Robust optimization formulation

Users can combine constraints based on budgets, channel capacity, cell sizes, hurdle rates and individual customer contact policies, and can even create custom constraints such as a minimum ROI or minimum revenue threshold required. Marketers can specify financially based tactical objectives such as “spend at least \$150,000 on offers to undermarketed customers in the Northeast.” With SAS, users first define optimization business objectives that focus on parameters such as maximizing profit, revenues or response rate, or minimizing total marketing cost. Users can even define two objectives in the same scenario to see how competing goals like maximizing profit and minimizing risk affect each other. Next, constraints define business conditions that require a limit – e.g., a marketer could put a ceiling on the total budget, or the aggregate portfolio risk could be held under a specific threshold. Lastly, marketers can include contact policies at the household and/or customer level within the same scenario.



Menu-driven actions make it easy to define alternate scenarios within an optimization project.



Multiple views of a project are available through the reporting and graphics capabilities in SAS® Marketing Optimization.

Scenario analysis

Marketers can define alternate scenarios within an optimization project. Each scenario can have a different set of constraints, marketing costs, business objectives and customer contact policies. Once users have specified constraints, they can optimize the scenarios and then review the analytic output reports to determine which scenario will deliver the best results.

Reporting and graphics

SAS Marketing Optimization includes reporting and graphics that provide multiple views of a project. Offer summary reports and graphs show total offers and expected profitability. Constraint summaries show the actual consumption of resources in the optimized scenario, as well as opportunity costs for constraints — the additional profit that would result from one more unit of that resource. SAS Marketing Optimization also generates sensitivity curves that show optimization objectives (e.g., profit) corresponding to a wide range of constraint values. This gives the user the ability to easily analyze the trade-offs between the objective and the constraints. If the user defined a secondary objective, they have access to a Range Analysis chart that shows the trade-offs between the two objectives. An example would be to evaluate how much an increase in revenue affects profit.

Reliable enforcement of contact strategies

Users can assign a maximum number of offers to be delivered to each customer throughout the set of campaigns being optimized, preventing conflicting communications and unwanted clutter. Limits can also be set on rolling time periods, channels or specific products marketed to each customer.

Key Features

Optimization formulation

Lets you solve a wide range of business objectives so you can maximize or minimize virtually any business goal. Examples include maximizing profit, minimizing marketing cost, achieving sales volume goals, and maximizing revenue and account balance. Enables you to account for:

- Overall budget or a budget for any campaign or offer combination.
- Channel availability for store, branch, call center, direct mail, e-mail, mobile or other channels.
- Customer-level attributes, such as consumer credit scores or recent purchase amounts.
- Desired minimum or maximum cell sizes for any campaign, offer or combination of offers.
- Resource consumption at the offer level.
- Nearly any custom customer-level criteria, such as “total revenues greater than or equal to \$25 million” or “average portfolio risk score greater than or equal to 680.”
- Categorical constraints (geography, customer attitude, etc.).
- Householding.
- Contact policies.

User interface

Provides easy navigation through the optimization process.

- Use wizards for frequent tasks and for integrating with SAS Marketing Automation.
- Reuse existing work (e.g., to create, copy, rename, delete or compare scenarios).
- Hide or expose advanced optimization functions to support the needs of different users.

Scenario analysis

Gives users the ability to analyze the effect of each constraint on the overall objective.

- Optimize scenarios and review the analytic output reports to determine which scenario will bring the best result.
- Run different scenarios based on constraints and optimization objectives, contact policy and offer economics.
- Import an offer solution (e.g., from a campaign management system) and compare with SAS Marketing Optimization scenarios.
- Directly send the optimal solution to the campaign execution system.

Contact strategy

Over- or undercontacting customers can affect loyalty, response rates and profit. SAS Marketing Optimization gives marketers an easy tool to manage these contacts.

- Specify how many offers to assign to each customer or household across the planning horizon.
- Specify the number of offers during any rolling time period.
- Specify number of offers from a group or subgroup (e.g., make at most two cross-sell offers through e-mail or at most one rebate offer per brand). Define groups and subgroups in the project input data. Groups and subgroups might include channel and time period, product and channel, or brand and offer type.
- Specify blocking policies (e.g., if you make Offer A, then you can't make Offer B for three weeks).

Reporting and analysis

- Prebuilt reports include:
 - Offer summary reports and graphs showing total costs, total profit and other metrics by offer, product, channel, time period, campaign, offer group or offer subgroup.
 - Optimal results by offer, product, channel, time period, campaign, offer group or offer subgroup.
 - Visual sensitivity analysis for all constraints.
 - Range analysis graph when two objectives are defined.
- Collaborative capabilities enable users to publish or e-mail reports of competing scenarios before execution.
- OLAP cubes are automatically created based on input data and results of scenarios. This enables more detailed analysis of results before execution.
- Rich reports that compare not only differing objectives within a scenario, but also show comparisons across scenarios to view the impact on various counts and critical measures.

Sophisticated and scalable optimization engine

To accommodate the growing sophistication of marketing programs, SAS Marketing Optimization is built on a high-performance optimization engine designed to improve scalability and reduce computation time. As a result, marketers solve larger, more complex business problems and quickly and easily get accurate information to help them make smarter decisions.

Technical requirements

Operating systems

- SAS server
- HP-UX Itanium
- HP PA-RISC
- IBM AIX
- Microsoft Windows
- Sun Solaris

Midtier servers

- HP-UX Itanium
- IBM AIX
- Microsoft Windows
- Sun Solaris
- Linux (Red Hat)

Clients

- Microsoft Windows

Application servers

- Oracle BEA Weblogic
- IBM Websphere
- JBoss

Required software

SAS Marketing Optimization ships with all the required server-side software. SAS Information Delivery Portal and SAS Web Report Studio deployments (part of the SAS Marketing Optimization solution) require an application server. Platform LSF is required for scheduling optimization scenarios to run at a later time.

Optional software

SAS Marketing Optimization is designed to use predictive models of customer response, economic valuation models of customer profitability and marketing costs, and the results of design of experiments (DOE) tests on offers and treatments. SAS products that provide or facilitate these capabilities are SAS Enterprise Miner, SAS/QC® and SAS Activity-Based Management. SAS Marketing Automation provides campaign management and execution capabilities to complete the marketing communication process chain.

Integration with Microsoft Office (for reporting and analysis) requires Microsoft Office 2000 or later.

Please contact your SAS representative for additional details about technical requirements.